

**REMARKS/ARGUMENT****Regarding the Claims in General:**

Claims 2-15 are now pending. Claim 1 has been canceled without prejudice and has been rewritten as new claim 15 to better highlight the distinguishing features of the invention, to replace the "means plus function" format thereof with structural recitations, and to improve the form thereof. Claims 2-14 have been amended to conform to the wording of new claim 15, and also to improve the form thereof as necessary. Claim 15 now recites more explicitly what was already at least implicit in the claims as previously presented, and has therefore not been narrowed for statutory purposes related to patentability.

**Regarding the Prior Art Rejections:**

In the outstanding Office Action, claims 1, 3, and 8 were rejected as being unpatentable over Joss et al. U.S. Patent 6,684,073 (Joss) in view of McCombe British Patent 2,280,085 (McCombe), claims 2, 5-7, 9, 10, and 12-14 were rejected as being unpatentable over Joss in view of McCombe and further in view of Nilsson WO 01/10109 A2 (Nilsson), and claim 4 was rejected as being unpatentable over Joss in view of McCombe and further in view of Yamaguchi et al. U.S. Patent 6,002,931 (Yamaguchi). Applicants respectfully request reconsideration and withdrawal of these rejections.

In all of the rejections, Joss is the principal reference. This patent does concern a type of mobile telephone system which is similar to that of the present invention in that information is transmitted to a subscriber's home network from a foreign network which is accessed by a subscriber's mobile telephone unit when the subscriber travels (roams) beyond the territory of the home network, and in that transmitted information is stored in a Home Location Register (HLR) of the subscribers' home network. However, the similarity ends there. Joss is concerned with facilitating roaming in a case where there are functional incompatibilities between the subscriber's home network and the visited network which prevent the required signaling.

In contrast, the present invention is concerned with an entirely different problem, namely to facilitate the provision of special, i.e. non-standard, services to a roaming subscriber from the home network itself, or from an independent service provider.

More particularly, the functionality of the HLR is defined in the GSM standard, and it is an essential feature of a GSM network devoted to providing basic mobile services. Because of this specific dedicated functionality, the HLR is not designed to support advanced non-standardized services.

Even if the HLR could be adapted to support advanced non-standardized services, it is so fundamental and critical a component of the GSM system, that network operators customarily do not permit access to it even by other parts of the network itself for which access is not essential, so an independent service provider would not be permitted access to network's HLR in any event.

Moreover, in a typical mobile network there is not a single HLR but many HLRs, and each subscriber is assigned to an HLR, which stores his/her profile and current location (VLR). Thus, it is essential for the provider of special services to be able to easily "find" a subscriber to which special services are to be provided without having to access the "forbidden" basic resources of the subscriber's home network.

The present invention accomplishes this objective by taking advantage of the signaling normally present in a conventional GSM system. Information derived from this signaling is processed and stored in a centralized memory from which it can be accessed by a special service provider without the necessity to check with every HLR in the network, and without risk of corruption of the HLR. Also, the centrally stored information can be complemented with information not defined in the GSM/UMTS standard, such as the visited country, the operator, the region/city of the VLR, the date of entry in the visited network, the profile of new roaming services not defined in the standard (alert services, predefined updating of operator's table, etc.)

It is believed that the Examiner will readily agree that there is no disclosure, teaching or suggestion in Joss either of applicants' problem or the solution described above.

Although the nature of the invention was clearly presented in original claim 1, the Examiner's analysis in his rejection of this claim suggests that the full nature of the invention was not revealed as clearly as it might have been. Thus claim 1 has been rewritten as new claim 15 to better highlight the distinguishing features of the invention, and the wording has been revised to better reflect customary idiomatic English and claim practice. In particular, according to the preamble, claim 15 is directed to a system for tracking mobile telephone subscriber units to permit provision of special services to a subscriber traveling between a home network and a foreign network. There is clearly no disclosure, teaching or suggestion of this in Joss, as discussed above.

The preamble of claim 15 then continues by describing an arrangement of interconnected networks in which the present invention is employed:

. . . the home network and the foreign network being part of a plurality of mobile telephone networks interconnected through a gateway, said gateway being arranged to provide communication with the mobile subscriber accessing the respective foreign network and to provide, as part of the normal operation of the networks, for the transmission of signaling parameters between the foreign network and the home network, said signaling parameters including an indication of mobile subscribers entering and exiting the foreign network, as well as data regarding the foreign network and data regarding the mobile subscriber, the home network including a first data storage unit operative to store an indication that said mobile subscriber is in the foreign network in response to said signaling parameters . . .

Even here, significant differences exist in comparison to Joss. For example, the Examiner equates the recited gateway to Joss' conversion device (3). This, however, is a specially designed unit which:

makes possible the transmission, respectively rerouting, of signalling traffic between telecommunications networks whose operators have no roaming agreement with one another in that addresses (Global Title) and subscriber identifications are analyzed and modified according to predefined procedures . . . (col. 5, lines 15-20).

In contrast, one skilled in the art would recognize the term the "gateway" recited in claim 15, as referring to a conventional element existing in all GSM networks which allows for the connection of the local network to foreign networks. As explained below, the present invention as recited in claim 15 uses the normal signaling going through these gateways to obtain the information exchanged between HRLs of the local network with the VLRs of foreign networks. It just "listens to" this exchange of information in order to detect travel of mobile subscribers between networks *without carrying out any protocol conversion or modification of the information exchanged*, as in Joss (see col. 7, lines 26-34 quoted by the Examiner).

Put somewhat differently, Joss' conversion device implements an additional node which widens the functionality of existing international gateways to provide *basic* services between systems having limited interconnectivity. The present invention as described in claim 15 does not aim at providing such basic mobile services since such functionality is already defined in the GSM standard. Instead, it detects travel between networks for the purpose of providing services which do not exist in the standard. By detecting such entry and exit events, the system of the invention obtains

additional information from that VLR where the subscriber is located. This way, it is possible to have registered those subscribers which are in a foreign network (identified by their MSISDN or IMSI) and where they are located (operator, country, area covered by the VLR, etc.)

Turning now to the actual claimed features of the invention, claim 15 calls for:

a data processing unit connected between the gateway and the home network,

a data analysis unit coupled to the data processing unit;

a second data storage unit coupled to the data processing unit; and

a special service module;

and describes the inventive functionality of each of these unit.

As to the data processing unit, this is described as:

operative to detect, on the basis of information circulating through the gateway, the signaling parameters including the indication of entrance and exit of the one or more mobile subscribers in and from the respective foreign network, the data regarding the foreign network and the data regarding the mobile subscriber,

The Examiner purports to find this functionality in Joss at col. 11, lines 6-13. However, Joss is merely providing basic roaming capability. As noted above, this capability already exists in systems to which the present invention applies. The claimed data processing unit utilizes information inherently available when a subscriber is roaming to provide expanded special services.

Further, the claimed data processing unit also functions to separate and send the detected signaling parameter data to the data analysis unit, which uses this existing conventional data "to identify subscribers of the associated home network entering and exiting a foreign network, . . . to generate identifying data regarding the foreign network and the mobile subscribers in the foreign network, [and] to provide the identifying data generated thereby to the second data storage unit . .

There is no equivalent functionality in Joss which must perform protocol conversion of existing data before roaming is possible. Moreover, the HLR is characterized in the preamble of claim 15 as the *first* data storage unit. Joss provides no "second data storage unit . . . operative to store the identifying data."

Finally, from the above discussion, it should be apparent that there is nothing in Joss remotely like the claimed special service module "responsive to the identifying data stored in the second data storage unit to provide contracted special services to the mobile subscribers in the foreign networks."

Nor do any of the secondary references cited by the Examiner provide the system architecture or functionality recited in claim 15. There is no disclosure, teaching or suggestion in any of these references of the need to provide special non-standard services for roaming subscribers. Like Joss, McCombe (commonly owned with the present invention), Yamaguchi, and Nilsson are all concerned with providing roaming capability for subscribers whose home networks are not interoperable. Thus, even the respective technologies can be regarded sufficiently similar or compatible for one skilled in the art to imagine a way to combine their respective teachings, the result would still not be a system in which special services can be provided to roaming subscribers.

For the foregoing reasons, claim 15, and its dependent claim 2-14 should be allowed.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

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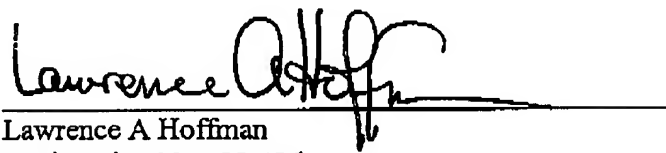
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